

In the Claims

Please cancel claims 41 and 48. Applicants reserve the right to pursue the original subject matter in a continuing application. Please amend claims 1, 15, 27, 37, 42-44, and 49-51; and add claims 52-70 as follows.

1. **(Currently Amended)** A telecommunications component comprising:
 - a circuit board;
 - a first multi-pair cable connector mounted on the circuit board for inputting twisted pair, mixed data/voice signals to the circuit board;
 - a second multi-pair cable connector mounted on the circuit board for outputting twisted pair, voice signals from the circuit board;
 - a third multi-pair cable connector mounted on the circuit board for outputting twisted pair, data signals or mixed data/voice signals from the circuit board;
 - one or more card edge connectors connected to the circuit board, the one or more card edge connectors including:
 - a group of normally closed contacts;
 - a group of normally open contacts, all of the normally open contacts being grouped separately from the normally closed contacts;
 - first tracings provided on the circuit board for connecting the first multi-pair cable connector to the normally closed contacts;
 - second tracings provided on the circuit board for connecting the normally closed contacts to the second multi-pair cable connector;
 - third tracings provided on the circuit board for connecting the normally open contacts to the third multi-pair cable connector; and
 - the tracings being positioned such that none of the third tracings on the circuit board cross-over any of the first or second tracings.
2. **(Original)** The telecommunications component of claim 1, further comprising a splitter card adapted for connection to the one or more card edge connectors of the circuit

board, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals.

3. (Original) The telecommunications component of claim 2, wherein the splitters comprise POTS splitters.

4. (Original) The telecommunications component of claim 3, wherein the splitter card includes at least 24 of the POTS splitters.

5. (Original) The telecommunications component of claim 1, wherein the one or more card edge connectors include a first card edge connector and a separate second card edge connector, the first card connector including the normally closed contacts and the second card edge connector including the normally open contacts.

6. (Original) The telecommunications component of claim 5, further comprising a splitter card adapted for connection to the first and second card edge connectors of the circuit board, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals.

7. (Original) The telecommunications component of claim 6, wherein the splitters comprise POTS splitters.

8. (Original) The telecommunications component of claim 7, wherein the splitter card includes at least 24 of the POTS splitters.

9. (Original) The telecommunications component of claim 1, further comprising a chassis including a reference back plane at which the first, second and third multi-pair cable connectors are positioned, the circuit board being aligned generally at a perpendicular orientation relative to the reference back plane.

10. (Original) The telecommunications component of claim 9, further comprising a splitter card adapted for connection to the one or more card edge connectors of the circuit board, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the splitter card being aligned at a generally parallel orientation relative to the circuit board when the splitter card is connected to the one or more card edge connectors.

11. (Original) The telecommunications component of claim 10, wherein the splitters comprise POTS splitters.

12. (Original) The telecommunications component of claim 11, wherein the splitter card includes at least 24 of the POTS splitters.

13. (Original) The telecommunications component of claim 9, wherein the chassis includes opposing slots, wherein the circuit board is mounted in the slots.

14. (Original) The telecommunications component of claim 13, further comprising a splitter card adapted for connection to the one or more card edge connectors of the circuit board, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the splitter card and the circuit board being mounted in the same opposing slots when the splitter card is connected to the circuit board by the first and second card edge connectors.

15. **(Currently Amended)** A telecommunications component comprising:
a chassis defining a reference back plane;
an interface card mounted at the reference back plane of the chassis, the interface card including:
a circuit board positioned at an orientation generally perpendicular with respect to the back plane;

a first multi-pair cable connector mounted on the circuit board and positioned at the back plane for inputting twisted pair, mixed data/voice signals to the circuit board;

a second multi-pair cable connector mounted on the circuit board and positioned at the back plane for outputting twisted pair, voice signals from the circuit board;

a third multi-pair cable connector mounted on the circuit board and positioned at the back plane for outputting twisted pair, data signals or mixed data/voice signals from the circuit board;

one or more card edge connectors connected to the circuit board, the one or more card edge connectors including normally closed contacts and normally open contacts;

first tracings provided on the circuit board for connecting the first multi-pair cable connector to the normally closed contacts;

second tracings provided on the circuit board for connecting the normally closed contacts to the second multi-pair cable connector; and

third tracings provided on the circuit board for connecting the normally open contacts to the third multi-pair cable connector.

16. (Original) The telecommunications component of claim 15, further comprising a splitter card adapted for connection to the one or more card edge connectors of the circuit board, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the splitter card being aligned at a generally parallel orientation relative to the circuit board when the splitter card is connected to the one or more card edge connectors.

17. (Original) The telecommunications component of claim 16, wherein the splitters comprise POTS splitters.

18. (Original) The telecommunications component of claim 17, wherein the splitter card includes at least 24 of the POTS splitters.

19. (Original) The telecommunications component of claim 15, wherein the chassis includes opposing slots, wherein the circuit board is mounted in the slots.
20. (Original) The telecommunications component of claim 19, further comprising a splitter card adapted for connection to the one or more card edge connectors of the circuit board, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the splitter card and the circuit board being mounted in the same opposing slots when the circuit board and the splitter card are interconnected by the card edge connectors.
21. (Original) The telecommunications component of claim 15, wherein a plurality of the interface cards are mounted within the chassis.
22. (Original) The telecommunications component of claim 15, wherein the chassis is sized to hold a single one of the interface card.
23. (Original) The telecommunications component of claim 15, wherein all of the normally closed contacts are provided on a first card edge connector, and all of the normally open contacts are provided on a separate second card edge connector.
24. (Original) The telecommunications component of claim 23, further comprising a splitter card adapted for connection to the first and second card edge connectors, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the splitter card being aligned at a generally parallel orientation relative to the circuit board when the splitter card is connected to the first and second card edge connectors.
25. (Original) The telecommunications component of claim 24, wherein the splitters comprise POTS splitters.

26. (Original) The telecommunications component of claim 25, wherein the splitter card includes at least 24 of the POTS splitters.

27. **(Currently Amended)** The telecommunications component of claim 23, further comprising a splitter card adapted for connection to the first and second card edge connectors, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the splitter card and the circuit board being mounted in a common pair of opposing slots defined by the chassis.
~~connectors.~~

28. (Previously Presented) A splitter card comprising:

- a circuit board;
- a plurality of splitters mounted on the circuit board, each splitter being adapted for receiving mixed voice and data signals and outputting first signals that are voice only and second signals that are either data only or mixed voice and data;
- a first card extension adapted to be received in a card edge connector, the first card extension including first contacts for receiving the mixed voice and data signals and second contacts for outputting the first signals;
- a second card extension adapted to be received in a card edge connector, the first card extension including third contacts for outputting the second signals;
- first tracings for transmitting the mixed voice and data signals from the first contacts to the splitters;
- second tracings for transmitting the first signals from the splitters to the second contacts;
- third tracings for transmitting the second signals from the splitters to the third contacts; and
- all of the first and second contacts being located at the first extension and all of the third contacts being located at the second extension, wherein the first and second contacts are grouped together at a location separate from the third contacts.

29. Cancelled

30. (Original) The splitter card of claim 28, wherein 24 of the splitters are provided on the circuit board.

31. (Previously Presented) A telecommunications component comprising:

- a circuit board;

- a multi-pair line connector for inputting twisted pair, mixed data/voice signals to the circuit board;

- a multi-pair voice connector for outputting twisted pair, voice signals from the circuit board;

- a multi-pair data connector for outputting twisted pair, data signals or mixed data/voice signals from the circuit board;

- one or more card edge connectors connected to the circuit board, the one or more card edge connectors including:

- a first card edge connector having exclusively normally closed contacts;

- a second card edge connector having exclusively normally open contacts;

- first conductive pathways provided on the circuit board for connecting the line connector to the normally closed contacts;

- second conductive pathways provided on the circuit board for connecting the normally closed contacts to the voice connector; and

- third conductive pathways provided on the circuit board for connecting the normally open contacts to the data connector.

32. (Previously Presented) The telecommunications component of claim 31, wherein the conductive pathways are positioned such that none of the third conductive pathways on the circuit board cross-over any of the first or second conductive pathways.

33. (Previously Presented) A telecommunications chassis assembly comprising:

- a chassis defining a reference back plane;

one or more printed circuit boards positioned adjacent the reference back plane;

a plurality of multi-pair line connectors for inputting twisted pair, mixed data/voice signals to the one or more circuit boards;

a plurality of multi-pair voice connectors for outputting twisted pair, voice signals from the one or more circuit boards;

a plurality of multi-pair data connectors for outputting twisted pair, data signals or mixed data/voice signals from the one or more circuit boards;

a first row of first card edge connectors positioned within the chassis, the first card edge connectors having exclusively normally closed contacts;

a second row of second card edge connectors positioned within the chassis, the second card edge connectors having exclusively normally open contacts;

the line and voice connectors being electrically connected by the one or more circuit boards exclusively to the first row of card edge connectors; and

the data connectors being electrically connected by the one or more circuit boards exclusively to the second row of card edge connectors.

34. (Previously Presented) The telecommunications chassis assembly of claim 33, wherein the first and second rows are horizontal rows.

35. (Previously Presented) A telecommunications chassis assembly comprising:

a chassis defining a reference back plane;

one or more printed circuit boards positioned adjacent the reference back plane;

a plurality of multi-pair line connectors for inputting twisted pair, mixed data/voice signals to the one or more circuit boards;

a plurality of multi-pair voice connectors for outputting twisted pair, voice signals from the one or more circuit boards;

a plurality of multi-pair data connectors for outputting twisted pair, data signals or mixed data/voice signals from the one or more circuit boards;

a first array of card edge connectors positioned within the chassis;

a second array of card edge connectors positioned within the chassis;
the line and voice connectors being electrically connected by the one or more circuit boards exclusively to the first array of card edge connectors; and
the data connectors being electrically connected by the one or more circuit boards exclusively to the second array of card edge connectors.

36. (Previously Presented) The telecommunications chassis assembly of claim 35, wherein the first and second arrays are separate rows.

37. **(Currently Amended)** A telecommunications component comprising:

a chassis defining a reference back plane;
an interface card mounted at the reference back plane of the chassis, the interface card including:

a circuit board positioned at an orientation generally perpendicular with respect to the back plane;

a first cable connector mounted to the circuit board and positioned at the back plane for inputting twisted pair, mixed data/voice signals to the circuit board;

a second cable connector mounted to the circuit board and positioned at the back plane for outputting twisted pair, voice signals from the circuit board;

a third cable connector mounted to the circuit board and positioned at the back plane for outputting twisted pair, data signals or mixed data/voice signals from the circuit board; and

one or more card edge connectors connected to the circuit board, the one or more card edge connectors including contacts electrically connected to the cable connectors by the circuit board; and

a POTS splitter card mounted in the chassis and electrically connected to the card edge connector of the interface card.

38. (Previously Presented) The telecommunications component of claim 37, wherein the contacts of the one or more card edge connectors include normally closed contacts electrically connected to the first and second cable connectors.

39. (Previously Presented) The telecommunications component of claim 37, wherein a plurality of the interface cards are mounted at the reference back plane of the chassis, the plurality of interface cards having circuit boards oriented generally perpendicular with respect to the reference back plane.

40. (Previously Presented) The telecommunications component of claim 39, wherein the plurality of interface cards include 24 generally parallel interface cards.

41. **(Cancelled)**

42. **(Currently Amended)** The telecommunications component of claim ~~37~~ 41, wherein the POTS splitter card and the interface card are generally co-planar.

43. **(Currently Amended)** The telecommunications connector of claim 39, further comprising a plurality of POTS splitter cards mounted in the chassis and electrically connected to the card edge connectors of the interface cards.

44. **(Currently Amended)** A telecommunications component comprising:
a chassis having a front and a back, the front being adapted for allowing splitter cards to be inserted into the chassis;
an interface card mounted adjacent the back of the chassis, the interface card including:
a circuit board having front and back ends and major side surfaces that extend between front and back ends, the circuit board being oriented such that the major side surfaces extend between the front and back of the chassis with the back end being of the circuit board being positioned adjacent the back of the chassis;

first, second and third cable connectors mounted ~~connected~~ to the circuit board adjacent the back end of the circuit board; and

one or more card edge connectors mounted ~~connected~~ to the circuit board adjacent the front end of the circuit board, the one or more card edge connectors including contacts electrically connected to the cable connectors by the circuit board; and
a POTS splitter card mounted in the chassis and electrically connected to the card edge connector of the interface card.

45. (Previously Presented) The telecommunications component of claim 44, wherein the contacts of the one or more card edge connectors include normally closed contacts.

46. (Previously Presented) The telecommunications component of claim 44, wherein a plurality of the interface cards are mounted at the back of the chassis, the plurality of interface cards having circuit boards oriented generally parallel relative to one another.

47. (Previously Presented) The telecommunications component of claim 46, wherein the plurality of interface cards include 24 generally parallel interface cards.

48. **(Cancelled)**

49. **(Currently Amended)** The telecommunications component of claim ~~44~~ 48, wherein the POTS splitter card and the interface card are generally co-planar.

50. **(Currently Amended)** The telecommunications connector of claim 46, further comprising a plurality of POTS splitter cards mounted in the chassis and electrically connected to the card edge connectors of the interface cards.

51. **(Currently Amended)** A telecommunications component comprising:
a chassis;
a plurality of interface cards secured to the chassis, the interface cards each including:

a circuit board having first and second opposite ends;
first, second and third cable connectors mounted adjacent the first end of the circuit board; and
one or more card edge connectors mounted adjacent the second end of the circuit board, the one or more card edge connectors including contacts electrically connected to the cable connectors by the circuit board; and
a POTS splitter card mounted in the chassis and electrically connected to the card edge connector of the interface card.

52. (New) A telecommunications component comprising:
a circuit board;
a first multi-pair cable connector for inputting twisted pair, mixed data/voice signals to the circuit board;
a second multi-pair cable connector for outputting twisted pair, voice signals from the circuit board;
a third multi-pair cable connector for outputting twisted pair, data signals or mixed data/voice signals from the circuit board;
one or more card edge connectors connected to the circuit board, the one or more card edge connectors including:
a group of normally closed contacts;
a group of normally open contacts, all of the normally open contacts being grouped separately from the normally closed contacts;
first tracings provided on the circuit board for connecting the first multi-pair cable connector to the normally closed contacts;
second tracings provided on the circuit board for connecting the normally closed contacts to the second multi-pair cable connector;
third tracings provided on the circuit board for connecting the normally open contacts to the third multi-pair cable connector;
the tracings being positioned such that none of the third tracings on the circuit board cross-over any of the first or second tracings; and

a splitter card adapted for connection to the one or more card edge connectors of the circuit board, the splitter card including at least 24 POTS splitters for splitting the mixed data/voice signals into the data signals and the voice signals.

53. (New) A telecommunications component comprising:

- a circuit board;

- a first multi-pair cable connector for inputting twisted pair, mixed data/voice signals to the circuit board;

- a second multi-pair cable connector for outputting twisted pair, voice signals from the circuit board;

- a third multi-pair cable connector for outputting twisted pair, data signals or mixed data/voice signals from the circuit board;

- a first card edge connectors connected to the circuit board, the first card edge connector including a group of normally closed contacts;

- a separate second card edge connector connected to the circuit board, the second card edge connector including a group of normally open contacts;

- first tracings provided on the circuit board for connecting the first multi-pair cable connector to the normally closed contacts;

- second tracings provided on the circuit board for connecting the normally closed contacts to the second multi-pair cable connector;

- third tracings provided on the circuit board for connecting the normally open contacts to the third multi-pair cable connector; and

- the tracings being positioned such that none of the third tracings on the circuit board cross-over any of the first or second tracings.

54. (New) The telecommunications component of claim 53, further comprising a splitter card adapted for connection to the first and second card edge connectors of the circuit board, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals.

55. (New) The telecommunications component of claim 54, wherein the splitters comprise POTS splitters.

56. (New) The telecommunications component of claim 55, wherein the splitter card includes at least 24 of the POTS splitters.

57. (New) A telecommunications component comprising:

- a chassis including a reference back plane;
- a circuit board aligned generally at a perpendicular orientation relative to the reference back plane;
- a first multi-pair cable connector positioned at the reference back plane for inputting twisted pair, mixed data/voice signals to the circuit board;
- a second multi-pair cable connector positioned at the reference back plane for outputting twisted pair, voice signals from the circuit board;
- a third multi-pair cable connector positioned at the reference back plane for outputting twisted pair, data signals or mixed data/voice signals from the circuit board;
- one or more card edge connectors connected to the circuit board, the one or more card edge connectors including:
 - a group of normally closed contacts;
 - a group of normally open contacts, all of the normally open contacts being grouped separately from the normally closed contacts;
- first tracings provided on the circuit board for connecting the first multi-pair cable connector to the normally closed contacts;
- second tracings provided on the circuit board for connecting the normally closed contacts to the second multi-pair cable connector;
- third tracings provided on the circuit board for connecting the normally open contacts to the third multi-pair cable connector;
- the tracings being positioned such that none of the third tracings on the circuit board cross-over any of the first or second tracings; and

a splitter card adapted for connection to the one or more card edge connectors of the circuit board, the splitter card including at least 24 POTS splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the splitter card being aligned at a generally parallel orientation relative to the circuit board when the splitter card is connected to the one or more card edge connectors.

58. (New) A telecommunications component comprising:

a chassis defining a reference back plane;

an interface card mounted at the reference back plane of the chassis, the interface card including:

a circuit board positioned at an orientation generally perpendicular with respect to the back plane;

a first multi-pair cable connector positioned at the back plane for inputting twisted pair, mixed data/voice signals to the circuit board;

a second multi-pair cable connector positioned at the back plane for outputting twisted pair, voice signals from the circuit board;

a third multi-pair cable connector positioned at the back plane for outputting twisted pair, data signals or mixed data/voice signals from the circuit board;

one or more card edge connectors connected to the circuit board, the one or more card edge connectors including normally closed contacts and normally open contacts;

first tracings provided on the circuit board for connecting the first multi-pair cable connector to the normally closed contacts;

second tracings provided on the circuit board for connecting the normally closed contacts to the second multi-pair cable connector;

third tracings provided on the circuit board for connecting the normally open contacts to the third multi-pair cable connector; and

a splitter card adapted for connection to the one or more card edge connectors of the circuit board, the splitter card including at least 24 POTS splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the

splitter card being aligned at a generally parallel orientation relative to the circuit board when the splitter card is connected to the one or more card edge connectors.

59. (New) A telecommunications component comprising:

- a chassis defining a reference back plane;

- an interface card mounted at the reference back plane of the chassis, the interface card including:

 - a circuit board positioned at an orientation generally perpendicular with respect to the back plane;

 - a first multi-pair cable connector positioned at the back plane for inputting twisted pair, mixed data/voice signals to the circuit board;

 - a second multi-pair cable connector positioned at the back plane for outputting twisted pair, voice signals from the circuit board;

 - a third multi-pair cable connector positioned at the back plane for outputting twisted pair, data signals or mixed data/voice signals from the circuit board;

 - one or more card edge connectors connected to the circuit board, the one or more card edge connectors including normally closed contacts and normally open contacts, wherein all of the normally closed contacts are provided on a first card edge connector, and all of the normally open contacts are provided on a separate second card edge connector;

 - first tracings provided on the circuit board for connecting the first multi-pair cable connector to the normally closed contacts;

 - second tracings provided on the circuit board for connecting the normally closed contacts to the second multi-pair cable connector; and

 - third tracings provided on the circuit board for connecting the normally open contacts to the third multi-pair cable connector.

60. (New) The telecommunications component of claim 59, further comprising a splitter card adapted for connection to the first and second card edge connectors, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the splitter card being aligned at a generally

parallel orientation relative to the circuit board when the splitter card is connected to the first and second card edge connectors.

61. (New) The telecommunications component of claim 60, wherein the splitters comprise POTS splitters.

62. (New) The telecommunications component of claim 61, wherein the splitter card includes at least 24 of the POTS splitters.

63. (New) The telecommunications component of claim 59, further comprising a splitter card adapted for connection to the first and second card edge connectors, the splitter card including a plurality of splitters for splitting the mixed data/voice signals into the data signals and the voice signals, the splitter card and the circuit board being mounted in a common pair of opposing slots defined by the chassis.

64. (New) A telecommunications component comprising:
a chassis defining a reference back plane;
an interface card mounted at the reference back plane of the chassis, the interface card including:
a circuit board positioned at an orientation generally perpendicular with respect to the back plane;
a first cable connector positioned at the back plane for inputting twisted pair, mixed data/voice signals to the circuit board;
a second cable connector positioned at the back plane for outputting twisted pair, voice signals from the circuit board;
a third cable connector positioned at the back plane for outputting twisted pair, data signals or mixed data/voice signals from the circuit board; and
one or more card edge connectors connected to the circuit board, the one or more card edge connectors including normally closed contacts electrically connected to the first and second cable connectors by the circuit board.

65. (New) A telecommunications component comprising:
- a chassis defining a reference back plane;
 - twenty-four generally parallel interface cards mounted at the reference back plane of the chassis, each of the interface cards having a circuit board oriented generally perpendicular with respect to the reference back plane, each of the interface cards further including:
 - a first cable connector positioned at the back plane for inputting twisted pair, mixed data/voice signals to the circuit board;
 - a second cable connector positioned at the back plane for outputting twisted pair, voice signals from the circuit board;
 - a third cable connector positioned at the back plane for outputting twisted pair, data signals or mixed data/voice signals from the circuit board; and
 - one or more card edge connectors connected to the circuit board, the one or more card edge connectors including contacts electrically connected to the cable connectors by the circuit board.
66. (New) The telecommunications component of claim 31, wherein each of the line, voice and data connectors is mounted on the circuit board.
67. (New) The telecommunications chassis assembly of claim 33, wherein one of each of the plurality of line, voice and data connectors is mounted on one of the plurality of circuit boards.
68. (New) The telecommunications chassis assembly of claim 35, wherein one of each of the plurality of line, voice and data connectors is mounted on one of the plurality of circuit boards.
69. (New) A telecommunications chassis assembly, comprising:
- a chassis defining a back plane;
 - a plurality of backplane circuit boards mounted perpendicular to the back plane, each of the backplane circuit boards including:

first, second, and third cable connectors mounted on a first edge of the backplane circuit board;

a plurality of splitter cards mounted within the chassis, each of the splitter cards including a plurality of POTS splitters, each of the splitter cards being perpendicular to the back plane;

a plurality of card edge connectors arranged to electrically interconnect each of the backplane circuit boards with one of the plurality of splitter cards;

wherein each of the card edge connectors includes a first card edge connector piece and a second card edge connector piece, the first card edge connector piece is mounted on a second opposite edge of the backplane circuit board, and the second card edge connector piece is mounted on the splitter card.